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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/504,235 02/15/00 YAMAZAKI

S 07977/008004

020985 TNO2/0925
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EXAMINER

ART UNIT	PAPER NUMBER
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2573
DATE MAILED:

09/26/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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FISH & RICHARDSON P.C.
LA JOLLA, CA

Docketed By Practice System	
Action Code:	RESP NO OA
Base Date:	9/26/01
Due Date:	12/26/01
Deadline:	3/26/02
Initials:	7
Record:	726401US2

Docketed By Billing Secretary	
Due Date:	12-26-01
Deadline:	3-26-02
Initials:	RJ DKS

Office Action Summary

Application No.
09/504,235

Applicant(s)
Yamazaki et al.

Examiner
David L Lewis

Art Unit
2673



— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul 2, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-11, 13-15, 17-19, 21-23, 25-27, 29-33, 35-39, 41-43, 45-47, 49- is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-11, 13-15, 17-19, 21-23, 25-27, 29-33, 35-39, 41-43, 45-47, 49-51, 5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 7 20) ☐ Other: _____

Title: Method of Manufacturing A Semiconductor Device

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. **Claims 57-60, 62, and 63 are rejected under 35 U.S.C. 102(a) as being anticipated by Zavracky et al. (5317236).**
3. **As in claim 57, Zavracky et al. teaches of a semiconductor device comprising: a flexible substrate, column 3 lines 55-65; a base film provided over said flexible substrate, column 3 lines 55-56; and a thin film integrated circuit comprising a thin film transistor provided over said base film, column 3 lines 1-67 . Wherein said stretchable substrate is flexible.**
4. **As in claim 58, where said flexible substrate comprises a resin, column 2 lines 45-60, wherein adhesives are well known resins. As in claim 59, wherein said base film comprises silicon oxide, column 3 lines 10-23. As in claim 60, wherein said thin film transistor comprises a channel formation region comprising a crystalline semiconductor, column 3 lines 1-22. As in claim 62, wherein said**

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semiconductor device is an EL display unit, column 3 lines 65-67. As in claim 63 wherein said semiconductor device is a liquid crystal display unit, column 2 lines 7-25.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 4-5, 7, 10-11, 29, 32-33, 35, 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zavracky et al. (5317236) in view of Ichikawa (6022458).**

7. As in claims 1, 7, 29, and 35 Zavracky et al. teaches of an electro-optical unit of a helmet comprising: a pair of transparent substrates comprising a resin/tempered glass, column 2 lines 9-25, each of said transparent substrates having a curved surface, column 5 lines 32-47; and an electro-optical modulating layer provided between said transparent substrates to provide said helmet with a shield comprising said electro-optical modulating layer and said transparent substrates, wherein information is displayed on said shield, column 5 lines 32-47. **Further as amended Zavracky et al. teaches of pixel thin film transistor provided over one of said transparent substrates, column 2 lines 58-67, column 3 lines 1-22. However as amended Zavracky et al. does not explicitly teaches of said**

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element atom densities. Zavracky et al. does however teaches of semiconductors processes of producing amorphous silicon films, such as the CLEFT, CEL, CVD processes, column 10 lines 1-40 that result in the same densities as well known and would have been obvious to the skilled artisan. Ichikawa teaches of said element atom densities, column 4 lines 1-40, as a result of well known semiconductor processing. **Therefore it would have been obvious** to the skilled artisan that said element atom densities as taught by Ichikawa, would have been obvious to the skilled artisan in view of Zavracky et al.'s semiconducting processing to produce single crystal silicon arrayed devices, as found in claims.

8. As in claims 4-5, 10-11, 32-33, and 38-39, Zavracky et al. teaches of active matrix display, column 2 lines 9-25, said modulating layer comprising a liquid crystal, column 2 lines 9-25, said modulating layer comprising an EL, column 5 lines 32-47.
9. **Claims 2, 3, 8, 9, 13-15, 17-19, 22-23, 25-27, 30, 31, 36, 37, and 41-43, 45-47, 49--51, 53-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zavracky et al. (5317236) in view of Lu (4988976) and Ichikawa (6022458).**

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10. As in claims 13, 17, 21, 25, 41, 45, 49, and 53 Zavracky et al. teaches of an electro-optical unit comprising: a pair of transparent substrates comprising a resin/tempered glass, column 2 lines 9-25, each of said transparent substrates having a curved surface, column 5 lines 32-47; and an electro-optical modulating layer provided between said transparent substrates to provide said helmet with a shield comprising said electro-optical modulating layer and said transparent substrates, wherein information is displayed on said shield, column 5 lines 32-47. However Zavracky does not specifically teach of an electro-optical unit of a vehicle/airplane. Zavracky does teach of an electro-optical unit being mounted onto a curved windshield for a heads-up display. As well known in the art, and as suggested by Lu, heads-up displays are directly applicable for use in high speed vehicles and the like such as airplanes, wherein the display is mounted onto their respective curved windshields, for the purpose of facilitating direct view of the traveled landscape simultaneously with a direct view of the control panel systems, without having attention diverted otherwise, column 1 lines 5-50. Therefore it would have been obvious to the skilled artisan to mount the display as taught by Zavracky on the curved windshield of an airplane or vehicle because heads-up displays have a well known utility as airplane and vehicle display systems. **Further as amended Zavracky et al. teaches** of pixel thin film transistor provided over one of said transparent substrates, column 2 lines 58-67, column 3 lines 1-22. **However as amended Zavracky et al. does not explicitly teaches** of said element atom densities. Zavracky et al. does however teaches of semiconductors processes of producing amorphous silicon films, such as the CLEFT, CEL, CVD processes, column 10 lines 1-40

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that result in the same densities as well known and would have been obvious to the skilled artisan. Ichikawa teaches of said element atom densities, column 4 lines 1-40, as a result of well known semiconductor processing. **Therefore it would have been obvious** to the skilled artisan that said element atom densities as taught by Ichikawa, would have been obvious to the skilled artisan in view of Zavracky et al.'s semiconducting processing to produce single crystal silicon arrayed devices, as found in claims

11. As in claims 14-15, 18-19, 22-23, 26-27, 42-43, 46-47, 50-51, and 54-55, Zavracky et al. teaches of active matrix display, column 2 lines 9-25, said modulating layer comprising a liquid crystal, column 2 lines 9-25, said modulating layer comprising an EL, column 5 lines 32-47. Further as in claims 2, 3, 8, 9, 30, 31, 36, 37, said speed information is well known to included in the control panel system head-up displays are designed to replace and would have been obvious to the skilled artisan as suggested by Lu, column 1 lines 5-50, further Lu teaches wherein said helmet is used for an auto-bicycle, figure 9.
12. **Claim 61 is rejected under 35 U.S.C. 103(a) as being unpatentable over Zavracky et al. (5317236).**

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13. As in claim 61, Zavracky teaches wherein said flexible substrate comprises polyethylene terephthalate, column 2 lines 10-37, column 5 lines 32-67, wherein said polyethylene terephthalate would have been obvious to the skilled artisan given Zavracky's teaching of alternative methods of polycrystalline silicon well known in the art.

Response to Arguments

14. Applicant's arguments with respect to claims 1-56 have been considered but are moot in view of the new ground(s) of rejection. Further the applicant has amended the claims to include limitations that are inherent and quite obvious in view Zavracky. Said pixel TFT would obviously have a source, gate, and drain regions as found in all transistors, and citing the element atom density as a result of well known semiconductor processing techniques adds very little of substance to the claims language. The office action has been made non-final due to the Examiner's oversight of claims 13 and 17.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Spitzer et al. (6043800), see figure 31.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **David L. Lewis** whose telephone number is (703) 306-3026. The examiner can normally be reached on MT and THF from 8 to 5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached on (703) 305-4938. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any response to this action should be mailed to:

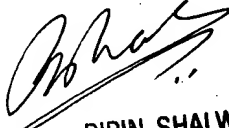
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or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


BIPIN SHALWALA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600